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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,539	01/14/2005	Shusaku Shibasaki	OT-5055	1524

7590
Troxell K. Snyder
Otis Elevator Company
10 Farm Springs
Farmington, CT 06032

EXAMINER

PICO, ERIC E

ART UNIT	PAPER NUMBER
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3654

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/521,539

Applicant(s)

SHIBASAKI, SHUSAKU

Examiner

Eric Pico

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/14/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cross-section of the coil element being arcuate claimed in claim 4, a thickness of the innermost coil radially varies claimed in claim 8 and 10, and a thickness of the outermost coil radially varies claimed in claim 9, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 8-10 are objected to because of the following informalities: the phrase "a thickness the outermost coil radially varies" contains improper grammar. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

5. **Claim(s) 4** contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Paragraphs [0009] or [0025] does not describe a cross section of the coil element being arcuate claimed in claim 4.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 8-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. **Regarding claims 8-10**, it is unclear and indefinite wherein the innermost or the outermost coil can radially vary when independent claim 1 claims a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil.

9. The term "substantially" in claims 8-10 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim(s) 1 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilpin et al. U.S. Patent No. 568345 in view of Fowler et al. U.S. Patent No. 380651.

12. **Regarding claim 1**, Gilpin et al. discloses a buffer for an elevator system, the buffer comprising: a conical coil spring D, D', wherein the buffer is configured to be disposed at one end of a hoistway of the elevator system for contacting a vertically moving member, referred to as elevator-car E, of the elevator system in the event of an

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abnormal overrun, wherein the conical spring D, D' includes a spiral coil element that comprises a series of coils, wherein a radius of the spring coil element decreases along an axis of the conical coil spring.

13. Gilpin et al. is silent concerning the spiral coil spring being fully compressed, the coils of the spiral coil spring are configured to be arranged in a substantially planar configuration, and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil.

14. Fowler et al. teaches a spiral coil element that comprises a series of coils, wherein a radius of the spring coil element decreases along an axis of the conical coil spring such that if the spiral coil spring is fully compressed, the coils of the spiral coil spring are configured to be arranged in a substantially planar configuration.

15. Fowler et al. further teaches having a spiral coil spring wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil is notoriously old and well known in the art of coiled springs, "being made of uniform size or diameter from one end to the other, as usual" Lines 37-38 to facilitate design and manufacturing, while the preferred embodiment of Fowler et al. does show a non-uniform thickness between the outermost coil and an innermost coil, a statement indicating the desirability of having a uniform thickness between the outermost coil and an innermost coil in no way criticizes, discredits, or otherwise discourages the solution of having a uniform thickness between the outermost coil and an innermost coil claimed.

16. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the spiral coil spring disclosed by Gilpin et al. to be arranged in a

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substantially planar configuration, and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil as taught by Fowler et al. to provide a fully compressive spring which will offer an increased traveling distance of the moving member.

17. **Regarding claim 2 and 3**, Gilpin et al. is silent concerning an outer radius of a coil is less than an inner radius of an adjacent coil, thereby permitting the coils to be compressed axially without experiencing radial interference and wherein a cross-section of the coil element is circular.

18. Fowler et al. teaches a an outer radius of a coil is less than an inner radius of an adjacent coil, thereby permitting the coils to be compressed axially without experiencing radial interference shown in Figure 1; and wherein a cross-section of the coil element is circular, shown in Figure 2.

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to make an outer radius of a coil disclosed by Gilpin et al. less than an inner radius of a adjacent coil as taught by Fowler et al. to provide a fully compressive spring which will offer a uniform resistance notwithstanding variations in its length by compression.

20. **Regarding claim 5**, Gilpin et al. discloses a transverse coil pitch of the coil element is constant.

21. **Regarding claim 6**, Gilpin et al. discloses the vertically moving element is an elevator car E.

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22. **Regarding claim 8-10**, Gilpin et al. is silent concerning a thickness of the innermost coil or the outermost coil radially varies so as to create a substantially flat contact surface.

23. Fowler et al. teaches a thickness of the innermost coil and the outermost coil radially varies, Lines 38-41, so as to create a substantially flat contact surface.

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to vary the thickness of the innermost coil and the outermost coil disclosed by Gilpin et al. radially as taught by Fowler et al. to offer a uniform resistance notwithstanding variations in its length by compression.

25. Claim(s) 4 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilpin et al. U.S. Patent No. 568345 in view of Fowler et al. U.S. Patent No. 380651 as applied to claim 2 above, and further in view of Davis U.S. Patent No. 190291.

26. **Regarding claim 4**, Gilpin et al. is silent concerning a cross-section of the coil element being arcuate.

27. Davis teaches a cross-section of a coil element being arcuate, shown in Figures 3-7.

28. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the cross-section of the coil element disclosed by Gilpin et al. a arcuate as taught by Davis to attain the desired spring characteristics for the given application.

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29. Claim(s) 7 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilpin et al. U.S. Patent No. 568345 in view of Fowler et al. U.S. Patent No. 380651 as applied to claim 2 above, and further in view of Solymos U.S. Patent No. 3768596.

30. **Regarding claim 7**, Gilpin et al. is silent concerning the vertically moving element is a counterweight.

31. Solymos teaches a vertically moving element being a counterweight 7.

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to dispose a spring buffer disclosed by Gilpin et al. for contacting a vertically moving counterweight as taught by Solymos to reduce the speed of a counterweight in case of abnormal overrun of a counterweight.

Response to Arguments

33. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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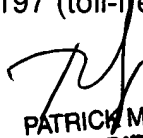
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Pico whose telephone number is 571-272-5589. The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EEP


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